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MYCOLOGIA

VOL. XIII MARCH, 1921 No 2

PHOTOGRAPHS AND DESCRIPTIONS OF CUP-FUNGI—IX

NORTH AMERICAN SPECIES OF DISCINA

FRED J. SEAVER

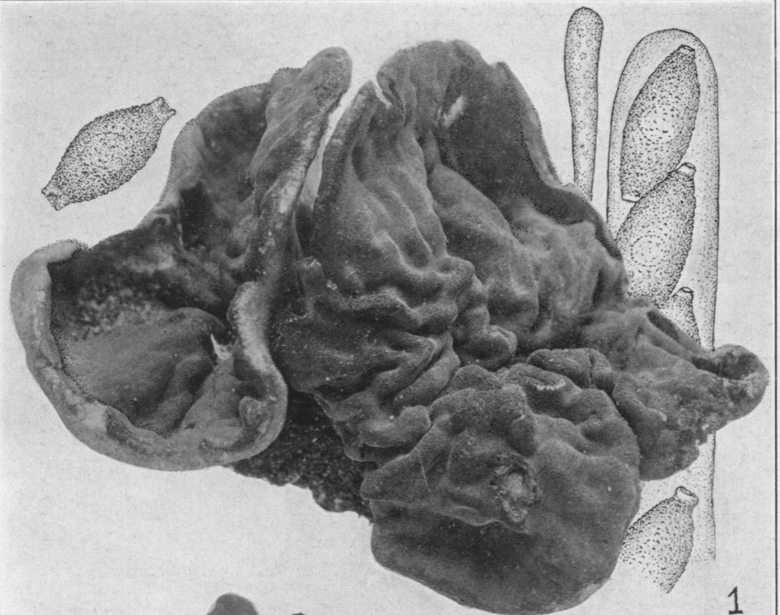
(WITH PLATE 4)

The genus *Discina* was established by Fries in 1849 as a monotypic genus, having been segregated from the old genus *Peziza* and based on *Peziza perlata* of Fries which, so far as we can see, is identical with *Peziza ancilis* of Persoon. The species is characterized by the thick waxy consistency and the expanded form of the apothecia. The spores of the species also furnish important diagnostic characters, although these were not mentioned by Fries when the genus was proposed. The spores are unusually large, strongly roughened at maturity, and provided with an apiculate appendage at either end.

Although the genus originally contained a single species, it has been gradually enlarged until at present it contains a score or more of species. In fact, almost every species which shows a tendency to become repand or flattened has finally come to be placed in the genus *Discina*.

After an extended study the writer, while recognizing the genus, is inclined to use it in a more restricted sense to include those large forms of cup-fungi which have appendiculate spores since the spore characters are more fixed and reliable than the mere form of the apothecia which is so susceptible to change. The genus would then include comparatively few but well marked species.

[MYCOLOGIA for January (13: 1–65) was issued February 3, 1921]



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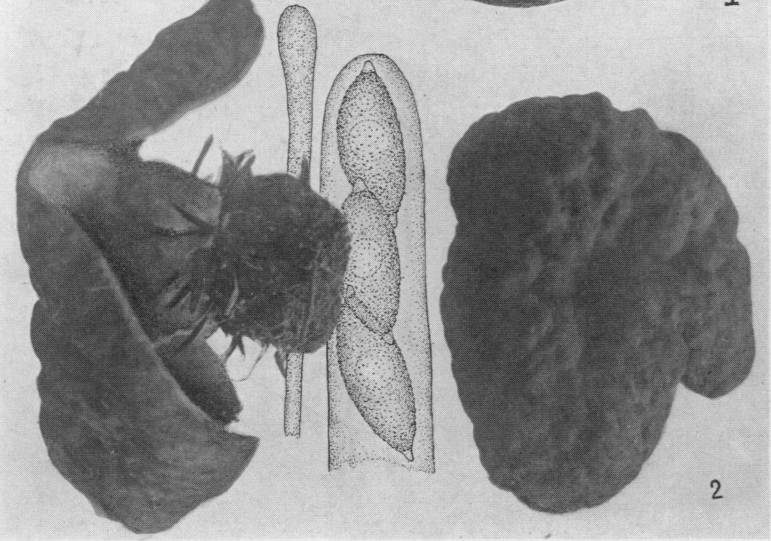

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1. DISCINA CONVOLUTA Seaver
2. DISCINA ANCILIS (Pers.) Sacc.

The type species, *Discina ancilis,* a large and conspicuous fungus, is frequently collected from New York State west to Washington. A number of specimens have been received from J. R. Weir to whom the writer is indebted for the accompanying photograph. *Peziza Warnei* was described by C. H. Peck from material collected at Oneida, New York, by H. A. Warne. Examination of some of this material in the herbarium of the New York Botanical Garden shows it to be identical with *Discina ancilis.*

Discina leucoxantha is also a large and attractive species but is less frequently collected. It is readily recognized by its light color and by the truncate appendages which mark the spores. Several specimens have been received from Stewart H. Burnham, collected at Hudson Falls, New York. Other specimens from New York and Maryland have been examined. *Discina convoluta* differs in its extremely convolute hymenium. Whether this character is constant must be determined by future collections.

Peziza apiculate of Cooke also doubtless belongs to *Discina* as here treated although the occurrence of this species in North America is somewhat doubtful. A very small specimen collected by B. O. Dodge in Bermuda has been doubtfully referred to this species. Also *Peziza elaeodes* of Clements seems to agree although no specimen has been seen. Doubtless other apiculate spored species of cup-fungi occur in North America and it is hoped that more will come to light. A synopsis of the North American species follows:

37. DISCINA Fries, Summa Veg. Scand. 348. 1849

Apothecia medium to large, sessile or short-stipitate, fleshy or waxy, light or dark-colored; asci cylindric or subcylindric, very long, usually showing a tendency to become spirally twisted; spores ellipsoid, appendiculate and often sculptured, hyaline or faintly colored; spore appendages apiculate or truncate; paraphyses rather stout.

Type species, *Discina perlata* Fries.

Apothecia dark-colored; spore appendages apiculate.
  Apothecia large, 6–7 cm. or more in diameter. 1. *D. ancilis.*

  Apothecia medium sized, not exceeding 1.5 cm. in diameter. 2. *D. apiculata.*
Apothecia bright-colored; spore appendages truncate.
  Hymenium strongly convolute. 3. *D. convoluta.*
  Hymenium even or only slightly undulated. 4. *D. leucoxantha.*

1. DISCINA ANCILIS (Pers.) Sacc. Syll. Fung. 8: 103. 1899

Peziza ancilis Pers. Myc. Eu. **1**: 219. 1822.
Peziza perlata Fries, Syst. Myc. **2**: 43. 1822.
Discina perlata Fries, Summa Veg. Scand. 348. 1849.
Rhizina helvetica Fuckel, Symb. Myc. Nacht. **2**: 66. 1873.
Peziza Warnei Peck, Ann. Rep. N. Y. State Mus. **30**: 59. 1878.
Aleuria ancilis Gill. Champ. Fr. Discom. 36. 1879.
Acetabula ancilis Lamb. Fl. Myc. Belg. **2**: 573. 1880.
Discina Warnei Sacc. Syll. Fung. **8**: 102. 1889.
Discina ancilis Sacc. Syll. Fung. **8**: 103. 1889.
Discina helvetica Sacc. Syll. Fung. **8**: 103. 1889.

Apothecia gregarious or scattered, more rarely congested, short-stipitate, at first subglobose, soon becoming discoid, finally repand, at first regular in form, becoming irregular and often angular as the margin rolls back, externally whitish or pallid, reaching a diameter of 7 or 8 cm., or in rare cases as large as 20–25 cm.; hymenium uneven, often beautifully veined or convolute, plane or convex, usually umbilicate, dark-brown, finally almost black; stem very short and stout, often 1–3 cm. in diameter and rarely exceeding 1 cm. in length, or entirely wanting, more or less lacunose, whitish or overcast with a pinkish tint; asci cylindric or subcylindric, reaching a length of 300–350 μ and a diameter of 12–18 μ, 8-spored; spores obliquely 1-seriate, very large, ellipsoid, hyaline, 12–14 × 30–35 μ, or occasionally as long as 40 μ including apiculi; at first smooth, becoming sculptured; spore-sculpturing consisting of minute warts; spore appendages consisting of a minute apiculus 4–5 μ long and 3–4 μ broad at the base, one at either end of the spore; paraphyses strongly enlarged above, closely adhering together, dark yellowish-brown, reaching a diameter of 8 μ.

On the ground in coniferous woods, more rarely on rotten wood.

TYPE LOCALITY: Europe.

DISTRIBUTION: New York to Washington, Oregon, and Colorado; also in Europe.

ILLUSTRATIONS: Ann. Rep. N. Y. State Mus. **30**: *pl. 1, f. 19–21*; Boud. Ic. Myc. *pl. 252*; Fuckel, Symb. Myc. Nacht. **2**:

f. 24; Pat. Tab. Fung. *f. 596*; Cooke, Mycographia *pl. 103, f. 371*; Rab. Krypt.-Fl. 1^3: 922, *f. 1–4*.

EXSICCATI: *Shear,* New York Fungi **324**: N. Am. Fungi *2622*.

2. **Discina apiculata** (Cooke) Seaver, comb. nov.

Peziza apiculata Cooke, Mycographia 175. 1877.
Phaeopezia apiculata Sacc. Bot. Centr. **18**: 218. 1884.
Aleuria apiculata Boud. Hist. Class. Discom. Eu. 47. 1907.
? *Peziza elaeodes* Clements, Bot. Surv. Nebr. **5**: 6. 1901.

Apothecia scattered, sessile, at first cup-shaped, soon becoming discoid, fleshy, circular in outline not usually exceeding 1.5 cm. in diameter; hymenium dark brownish-black, slightly concave or nearly plane; asci cylindric or subcylindric, reaching a length of 200 μ and a diameter of 18 μ, 8-spored; spores obliquely 1-seriate, with the ends overlapping, narrow-ellipsoid to fusoid, often with a small apiculus at either end, becoming pale brownish and often delicately sculptured, about 10 × 24 μ, containing two large oil-drops; spore sculpturing consisting of minute warts; paraphyses slender, adhering together at their apices, dark-brown.

On damp soil.

TYPE LOCALITY: Italy.

DISTRIBUTION: (Nebraska?) and (Bermuda?); also in Europe.

ILLUSTRATIONS: Cooke, Mycographia *pl. 79, f. 305*.

3. **Discina convoluta** Seaver, sp. nov.

Apothecia gregarious or cespitose, very short-stipitata, becoming shallow cup-shaped or subdiscoid, externally whitish at the base, becoming yellowish upwards toward the margin, reaching a diameter of 6 cm.; hymenium yellowish-brown, very deeply convolute, the convolutions consisting of more or less radiating ribs or veins, resembling those of *Peziza venosa* but more distinct; stem very short and stout, 1 cm. or more thick and usually not more than 1 cm. long, whitish, deeply corrugated; asci cylindric or subcylindric, reaching a length of 400–500 μ and a diameter of 20 μ, 8-spored but a part of the spores often remaining undeveloped; spores 1-seriate, with the ends usually overlapping, ellipsoid, becoming sculptured and appendiculate, 12–14 × 35–40 μ; spore-sculpturing consisting of warts or short interrupted ridges which often approach very fine reticulations; spore appendages consisting of a cup-like structure at each end; paraphyses stout, usually straight, reaching a diameter of 8 μ at their apices, densely filled with yellow granules.

On the ground in woods.

Type collected in the woods near Yonkers, New York, May 22, 1916, by F. J. Seaver.

DISTRIBUTION: Known only from the type locality.

4. DISCINA LEUCOXANTHA Bres. Rev. Myc. 4: 212. 1882

Peziza leucoxantha Bres. Fungi Trid. 42. 1881.

Apothecia gregarious or substipitate, at first subglobose, expanding and becoming hemispheric or nearly plane, externally whitish, reaching a diameter of 4–7 cm., the margin regular or lobed; hymenium concave or nearly plane, even or undulated, bright-yellow or becoming yellowish-brown with age; stem about 1 cm. in diameter and scarcely exceeding 5 mm. in length, irregularly corrugated at the base, the flesh thick and brittle; asci cylindric or subcylindric, attenuated at the base, reaching a length of 400 μ and a diameter of 20 μ, becoming twisted, 8-spored; spores ellipsoid, smooth, containing one large oil-drop and several smaller ones, becoming minutely sculptured, 10–15 × 27–35 μ; spore-sculpturing consisting of minute warts or occasionally minute ridges or indistinct reticulations; spore appendages consisting of truncate protuberances, one at either end of the spore; paraphyses slender, septate, branched, slightly enlarged above, filled with orange granules.

On the ground in coniferous woods.

TYPE LOCALITY: France.

DISTRIBUTION: New York; also in Europe.

ILLUSTRATIONS: Bres. Fungi Trid. *pl. 44*; Bull. Soc. Myc. Fr. 3: *pl. 12*; Boud. Ic. Myc. *pl. 253*; Rab. Krypt.-Fl. 1^3: 922. *f. 5.*

NEW YORK BOTANICAL GARDEN.

DESCRIPTION OF PLATE 4

1. *Discina convoluta* Seaver. Two plants about natural size with drawings of a portion of an ascus with spores, paraphysis, and one spore isolated.

2. *Discina ancilis* (Pers.) Sacc. One plant showing the hymenial surface and one in profile both about natural size with drawing of a portion of an ascus with spores and paraphysis.

All drawings made with the aid of the camera lucida.